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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,392	12/09/2003	Robert D. Galli	E001 P00929-US1	4646
3017	7590	12/22/2004	EXAMINER	
BARLOW, JOSEPHS & HOLMES, LTD. 101 DYER STREET 5TH FLOOR PROVIDENCE, RI 02903			HAN, JASON	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/731,392	GALLI, ROBERT D.	
	Examiner	Art Unit	
	Jason M Han	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Luxeon Thermal Design Document</u> . |

DETAILED ACTION

Priority

1. Applicant has been granted the earliest filing date of December 10, 2001.

Drawings

2. The drawings were received on November 30, 2004. These drawings are acceptable and objections have been withdrawn.

Specification

3. Applicant has sufficiently amended the specification and objection has been withdrawn.

Claim Objections

4. Applicant has sufficiently amended the claims with respect to the "interior die" to now read "mounting die", so as to use consistent language. Examiner has withdrawn the objection.
5. Claim 1 is objected to because of the following informalities: typographical error – line 16 of the claim – "said longitudinal axis pf said mounting die". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. Applicant has sufficiently amended Claim 6 with respect to the lack of antecedent basis. Examiner has withdrawn the rejection.

The following claims have been rejected in light of the specification, but rendered the broadest interpretation [MPEP 2111].

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-7, 8-12, and 13-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-31 of U.S. Patent No. 6827468 in view of Marshall et al. (U.S. Patent 6547423).

The above patent by the same inventor is a similar (especially Claim 15) but not an identical invention. It does not specifically disclose a lens including a total internal reflection collector portion, such as taught by the current application.

On the other hand, Marshall discloses an LED collimation optics with improved performance and reduced size, wherein a lens includes a total internal reflection collector portion having a rear surface [Figures 1-6: (3)]; an outer side wall [Figures 1-6: (7)]; and a cavity [Figures 1-6: (4)] extending into the collector portion from the rear surface wherein a front luminescent portion of an LED [Figure 1A: (6)] is substantially

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disposed, and having an inner side wall [Figures 1-6: (9)] and front wall [Figures 1-6: (8)].

It would have been obvious to modify U.S. Patent No. 6827468 by the same inventor to incorporate the TIR lens of Marshall in order to efficiently utilize the emitted light from the LED and provide a desired optical effect. Such a configuration is commonly seen in the art of laser diode flashlights, wherein a laser diode is connected to a heat assembly to dissipate the high-generated heat from the diode and a collimator lens connected adjacently to the front of the diode to produce a desired optical effect.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. Claim 13 recites the limitation "retains said light emitting diode in said recess" in line 17 of the claim. There is insufficient antecedent basis for this limitation in the claim. The examiner has not given patentable weight to the spreader plate retaining the LED in "said recess" in the rejection below, and has interpreted as best could.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Luxeon® Power Light Sources (Non-Patent Literature cited in the Information Disclosure Statement of Parent Application 10/315,336).

11. With regards to Claim 1, Barnett teaches a lighting assembly [Figure 10] including a light emitting diode package [Figure 10: (10)], a mounting device [Figure 10: (254)], and a lens [Figure 10] received adjacent to the light emitting diode package. In addition, Barnett teaches the mounting device [Figure 10: (254)] having a first end and a second end opposite thereof, a longitudinal axis extending between the first and second ends, and an alignment guide on the first end that positions the light emitting diode package such that the central axis of the emitted light from the LED is substantially aligned with the longitudinal axis of the mounting device [Figure 10].

Barnett does not specifically teach a light emitting diode package having a heat transfer plate disposed on a rear side of a mounting base, nor teaches the mounting die being electrically conductive and in thermal communication with said heat transfer plate.

Luxeon® Power Light Sources teaches such a heat transfer plate [Figure 1B: (T slug)] disposed on a rear side of a mounting base [Figure 1B: (Die attach)]. It should be noted that applicant admits that the light emitting diode package may be a Luxeon® emitter. In addition, Luxeon® teaches, "All Luxeon products mounted on an aluminum, metal-core printed circuit board (MCPCB, also called Level 2 products) can be lit out of the box, though we do not recommend lighting the Flood for more than a few seconds

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without an additional heat sink... These products have 1 in² of MCPCB per emitter. The MCPCB acts as an electrical interconnect, as well as a thermal heat sink interface [Page 3].”

It would have been obvious to modify the lighting assembly of Barnett, specifically the mounting device, to incorporate the heat dissipation means of Luxeon® in order to ensure proper heat transfer for the LED, thus ensuring optimal performance. In addition, implementing an MCPCB to the mounting device of Barnett would further create a more compact device via elimination of electrical wiring.

12. With regards to Claim 2, Barnett in view of Luxeon® discloses the claimed invention as cited above. In addition, Barnett teaches an aperture [Figure 10: (254); Figure 1B] in the mounting die extending from the first end to the second end. Barnett further teaches a first contact lead [Figure 1B: (12) – anode] of a light emitting diode in electrical communication with the mounting die [Figure 1B: (54)] and a second contact lead [Figure 1B: (14) – cathode] of the light emitting diode extending into the aperture.

13. With regards to Claim 3, Barnett in view of Luxeon® discloses the claimed invention as cited above. In addition, Barnett teaches a circuit board [Figure 5: (40)] mounted adjacent to the second end of the mounting die, wherein the second contact lead of the light emitting diode is in electrical communication with the circuit board [Figure 5: (57, 58)]. It is apparent and obvious that a printed circuit board has circuit traces, hence the term “printed”.

14.

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15. With regards to Claim 7, Barnett in view of Luxeon® discloses the claimed invention as cited above. In addition, Barnett teaches an exterior enclosure having a tubular outer wall, wherein a cavity is formed for receiving and maintaining the mounting die, and whereby the light emitting diode and the lens are in assembled relation [Figure 10]. Barnett further teaches a power source [Figure 10: (battery)] having first and second contact leads providing electrical communication and power to the LED.

16. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Luxeon® Power Light Sources (Non-Patent Literature) as applied to Claim 3 above, and further in view of applicant's admitted prior art.

Barnett in view of Luxeon® discloses the claimed invention as cited above, but does not specifically teach the circuit board including control circuitry in electrical communication with the circuit traces.

To the applicant's admission, "control circuitry 40 may be mounted onto the flexible circuit strip 32 and housed within the channel 30 in the die 14. The control circuitry includes an LED driver circuit as is well known in the art [Page 15, last couple of sentences]."

It would have been obvious to modify the lighting assembly of Barnett with the heat dissipation means of Luxeon® to further incorporate the control circuitry of applicant's admitted prior art so as to provide an LED driver circuit to control a desired optical effect.

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17. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Luxeon® Power Light Sources (Non-Patent Literature) as applied to Claim 3 above, and further in view of Hochstein et al. (U.S. Patent 6582100).

Barnett in view of Luxeon® discloses the claimed invention as cited above. In addition, Barnett teaches an exterior enclosure having a tubular outer wall, wherein a cavity is formed for receiving and maintaining the mounting die, and whereby the light emitting diode and the lens are in assembled relation [Figure 10]. Barnett further teaches a power source [Figure 10: (battery)] having first and second contact leads providing electrical communication and power to the LED, but does not specifically teach the first contact lead in communication with the mounting die and the second contact lead in electrical communication with the circuit traces.

Hochstein teaches, "The assembly includes a plurality of light emitting diodes 20 and each LED 20 has electrical leads 22 for electrical contact with the traces 14 for powering the respective LEDs 20. In the preferred mode, the electrical leads 22 extend laterally or horizontally in opposite directions from opposite extremities of the LED 20 and overlie the traces 14. It is also possible, to use a single lead LED where the heat sink 54 is one of the electrical connections while the other lead constitutes the second electrical connection to a trace [Column 3, Lines 41-49; underlines added by examiner for emphasis]."

It would have been obvious to modify the lighting assembly of Barnett with the heat dissipation means of Luxeon® to further incorporate the electrical connection

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means of Hochstein in order to eliminate the need for a wire(s), and to ensure a proper electrical connection between the battery and light source. Such a configuration is an obvious design choice and commonly known within the art.

18. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Luxeon® Power Light Sources (Non-Patent Literature) as applied to Claim 1 above, and further in view of Marhsall et al. (U.S. Patent 6547423).

Barnett in view of Luxeon® discloses the claimed invention as cited above, but does not specifically teach the lens including a total internal reflection collector portion.

Marshall discloses an LED collimation optics with improved performance and reduced size. Marshall teaches the collimator [Figure 1A: (20)] having a rear surface [Figure 1A: where the LED is disposed], an outer sidewall [Figure 1A: (7)], and a cavity [Figure 1A: (4)] defined by an inner sidewall [Figure 1A: (9)] and a front wall [Figure 1A: (8)] wherein an LED is disposed.

It would have been obvious to modify the lighting assembly of Barnett with the heat dissipation means of Luxeon® to further incorporate the collimator lens of Marshall in order to provide LED collimation optics in modifying the illumination with desired optical effect(s).

19. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Luxeon® Power Light Sources (Non-Patent Literature), and further in view of Marshall et al. (U.S. Patent 6547423).

20. With regards to Claim 8, Barnett teaches a lighting assembly [Figure 10] with an exterior enclosure having a tubular outer wall, wherein a cavity is formed for receiving and maintaining a mounting device/die [Figure 10: (254)], and whereby a light emitting diode package [Figure 10: (10)] and a lens are in assembled relation [Figure 10].

Barnett specifically teaches the mounting device [Figure 10: (254)] having an aperture with a first end and a second end opposite thereof, a longitudinal axis extending between the first and second ends, and a recess defined on the first end that positions the light emitting diode package such that the central axis of the emitted light from the LED is substantially aligned with the longitudinal axis of the mounting device [Figure 10]. In addition, Barnett teaches a first contact lead [Figure 1B: (12) – anode] of a light emitting diode in electrical communication with the mounting die [Figure 1B: (54)] and a second contact lead [Figure 1B: (14) – cathode] of the light emitting diode extending into the aperture.

Barnett does not specifically teach a light emitting diode package having a heat transfer plate disposed on a rear side of a mounting base, whereby the mounting die is electrically conductive and in thermal communication with said heat transfer plate.

Luxeon® Power Light Sources teaches such a heat transfer plate [Figure 1B: (T slug)] disposed on a rear side of a mounting base [Figure 1: (Die attach)]. It should be noted that applicant admits that the light emitting diode package may be a Luxeon® emitter. In addition, Luxeon® teaches, “All Luxeon products mounted on an aluminum, metal-core printed circuit board (MCPCB, also called Level 2 products) can be lit out of the box, though we do not recommend lighting the Flood for more than a few seconds

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without an additional heat sink... These products have 1 in² of MCPCB per emitter. The MCPCB acts as an electrical interconnect, as well as a thermal heat sink interface [Page 3]."

Neither Barnett nor Luxeon[®] specifically teaches the lens including a total internal reflection collector portion.

Marshall discloses an LED collimation optics with improved performance and reduced size. Marshall teaches the collimator [Figure 1A: (20)] having a rear surface [Figure 1A: where the LED is disposed], an outer sidewall [Figure 1A: (7)], and a cavity [Figure 1A: (4)] defined by an inner sidewall [Figure 1A: (9)] and a front wall [Figure 1A: (8)] wherein an LED is disposed.

It would have been obvious to modify the lighting assembly of Barnett, specifically the mounting device, to incorporate the heat dissipation means of Luxeon[®] in order to ensure proper heat transfer for the LED, thus ensuring optimal performance. In addition, implementing an MCPCB to the mounting device of Barnett would further create a more compact device via elimination of electrical wiring.

It would then have been advantageous and obvious to modify the lighting assembly of Barnett with the heat dissipation means of Luxeon[®] to further incorporate the collimator lens of Marshall in order to provide LED collimation optics in modifying the illumination with desired optical effect(s).

The above modifications provide a compact and efficient lighting assembly that is similar and commonly seen within a laser flashlight.

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21. With regard to Claims 9-10, Barnett in view of Luxeon® discloses the claimed invention as cited above. In addition, Barnett teaches a circuit board [Figure 5: (40)] mounted adjacent to the second end of the mounting die, wherein the second contact lead of the light emitting diode is in electrical communication with the circuit board [Figure 5: (57, 58)]. It is apparent and obvious that a printed circuit board has circuit traces, hence the term "printed".

22. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Luxeon® Power Light Sources (Non-Patent Literature) and Marhsall et al. (U.S. Patent 6547423) as applied to Claim 10 above, and further in view of applicant's admitted prior art.

Barnett in view of Luxeon®, and further in view of Marshall discloses the claimed invention as cited above, but does not specifically teach the circuit board including control circuitry in electrical communication with the circuit traces.

To the applicant's admission, "control circuitry 40 may be mounted onto the flexible circuit strip 32 and housed within the channel 30 in the die 14. The control circuitry includes an LED driver circuit as is well known in the art [Page 15, last couple of sentences]."

It would have been obvious to modify the lighting assembly of Barnett with the heat dissipation means of Luxeon® and the lens of Marshall to further incorporate the control circuitry of applicant's admitted prior art so as to provide an LED driver circuit to control a desired optical effect.

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23. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Luxeon® Power Light Sources (Non-Patent Literature) and Marhsall et al. (U.S. Patent 6547423) as applied to Claim 8 above, and further in view of Hochstein et al. (U.S. Patent 6582100).

Barnett in view of Luxeon®, and further in view of Marshall discloses the claimed invention as cited above. In addition, Barnett teaches a power source [Figure 10: (battery)] having first and second contact leads providing electrical communication and power to the LED, but does not specifically teach the first contact lead in communication with the mounting die and the second contact lead in electrical communication with the circuit traces.

Hochstein teaches, "The assembly includes a plurality of light emitting diodes 20 and each LED 20 has electrical leads 22 for electrical contact with the traces 14 for powering the respective LEDs 20. In the preferred mode, the electrical leads 22 extend laterally or horizontally in opposite directions from opposite extremities of the LED 20 and overlie the traces 14. It is also possible, to use a single lead LED where the heat sink 54 is one of the electrical connections while the other lead constitutes the second electrical connection to a trace [Column 3, Lines 41-49; underlines added by examiner for emphasis]."

It would have been obvious to modify the lighting assembly of Barnett with the heat dissipation means of Luxeon® and the lens of Marshall to further incorporate the electrical connection means of Hochstein in order to eliminate the need for a wire(s),

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and to ensure a proper electrical connection between the battery and light source. Such a configuration is an obvious design choice and commonly known within the art.

24. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. (U.S. Patent 6541800) in view of Hochstein et al. (U.S. Patent 6582100), and further in view of Marshall et al. (U.S. Patent 6547423).

25. With regard to Claims 13 and 15, Barnett teaches a lighting assembly [Figure 10] with an exterior enclosure having a tubular outer wall, wherein a cavity is formed for receiving and maintaining a mounting device/die [Figure 10: (254)], and whereby a light emitting diode package [Figure 10: (10)] and a lens are in assembled relation [Figure 10]. Barnett specifically teaches the mounting device [Figure 10: (254)] having an aperture with a first end and a second end opposite thereof, a longitudinal axis extending between the first and second ends, and an alignment guide on the first end that positions the light emitting diode package such that the light emitting diode extends through the aperture and such that the central axis of the light emitting diode is substantially aligned with the longitudinal axis of the mounting device [Figure 10].

Barnett does not specifically teach a light emitting diode package having a heat transfer plate disposed on a rear side of a mounting base, nor the mounting die acting (including) as a heat sink assembly in thermal communication with said heat transfer plate.

Hochstein discloses an LED mounting system wherein the LED has a front luminescent portion [Figures 1-2: (39)]; a mounting base [Figures 1-2: (20)] having a heat transfer plate [Figures 1-2: (54)] located on a rear surface thereof and first and

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second contact leads [Figures 1-2: (22, 24)] extending from the sides thereof; a heat dissipater [Figures 1-2: (10)] having a recess to receive the mounting base [Figures 1-2: (40)], a rear surface [Column 3, Lines 33-36], and whereby the heat dissipater is in thermal communication with the heat transfer plate and a spreader plate [Figures 1-2: (52)] that retains (commonly seen in the art as cited below) and conducts heat from the LED to the rear surface of the heat dissipater.

Neither Barnett nor Hochstein specifically teaches the lens including a total internal reflection collector portion.

Marshall discloses an LED collimation optics with improved performance and reduced size. Marshall teaches the collimator [Figure 1A: (20)] having a rear surface [Figure 1A: where the LED is disposed], an outer sidewall [Figure 1A: (7)], and a cavity [Figure 1A: (4)] defined by an inner sidewall [Figure 1A: (9)] and a front wall [Figure 1A: (8)] wherein an LED is disposed.

It would have been obvious to modify the lighting assembly of Barnett, specifically the mounting device, to incorporate the heat dissipation means of Hochstein in order to ensure proper heat transfer for the LED, thus ensuring optimal performance.

It would then have been advantageous and obvious to modify the lighting assembly of Barnett with the heat dissipation means of Hochstein to further incorporate the collimator lens of Marshall in order to provide LED collimation optics in modifying the illumination with desired optical effect(s).

The above modifications provide an efficient lighting assembly that is similar and commonly seen within a laser flashlight.

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26. With regards to Claim 14, Hochstein teaches a circuit board/insulating layer [Figures 1-2: (12)] proximately adjacent to the spreader plate and having circuit traces [Figures 1-2: (14)] in electrical communication with the contact leads [Figures 1-2: (22)] of the LED [Column 3, Lines 41-44].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are further cited to show the state of the art pertinent to the current application, but may not be exhaustive:

US Patent 2224178 to Bitner;	US Patent 4991183 to Meyers;
US Patent 5029335 to Fisher et al;	US Patent 5126929 to Cheselske;
US Patent 5595435 to Palmer et al;	US Patent 5775792 to Wiese;
US Patent 5813743 to Naka;	US Patent 5857767 to Hochstein;
US Patent 6007218 to German et al;	US Patent 6016038 to Mueller et al;
US Patent 6019493 to Kuo et al;	US Patent 6142650 to Brown et al;
US Patent 6161910 to Reisenauer et al;	US Patent 6355946 to Ishinaga;
US Patent 6392778 to Perduijn et al;	US Patent 6402347 to Maas et al;
US Patent 6428189 to Hochstein;	US Patent 6481874 to Petroski;
US Patent 6517218 to Hochstein;	US Patent 6783260 to Machi et al;
US Patent 6819505 to Cassarly et al.	

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (12/15/2004)



JOHN ANTHONY WARD
PRIMARY EXAMINER